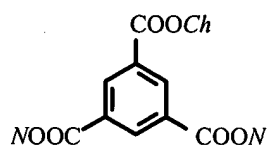


WHAT IS CLAIMED IS:

1. A glassy chiral-nematic liquid crystal composition comprising a compound having a 1, 3, 5-benzenetricarbonyl central moiety, said compound having the structural formula



wherein each *N* represents a nematic group connected to said central moiety by a carboxylic ester linkage and *Ch* represents a chiral group connected to said central moiety by a carboxylic ester linkage.

2. The composition of claim 1 wherein said nematic group *N* includes a biphenyl or a terphenyl moiety.

3. The composition of claim 2 wherein said nematic group *N* is a 4-(1-propylene-3-oxy)-benzoic acid 4'-cyanobiphenyl-4-yl ester group or a 3-(4'-cyano-*p*-terphenyloxy)-1-propyl group.

4. The composition of claim 1 wherein said nematic group *N* includes a coumarin moiety.

5. The composition of claim 4 wherein said nematic group *N* is a 4'-(6-hexyleneoxy)-[1,1'-biphenyl]-4-carboxylate acid, 4-(6-coumarin) ester.

6. The composition of claim 1 wherein said nematic group *N* includes a naphthyl moiety.

7. The composition of claim 1 wherein said chiral group *Ch* includes an ether or an ester of a chiral alcohol.

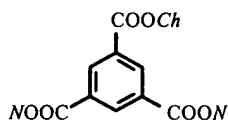
8. The composition of claim 1 wherein said chiral group *Ch* includes an amide of a chiral amine.

9. The composition of claim 8 wherein said chiral group *Ch* includes an (*S*)- or an (*R*)-1-(phenylethyl) amide moiety.

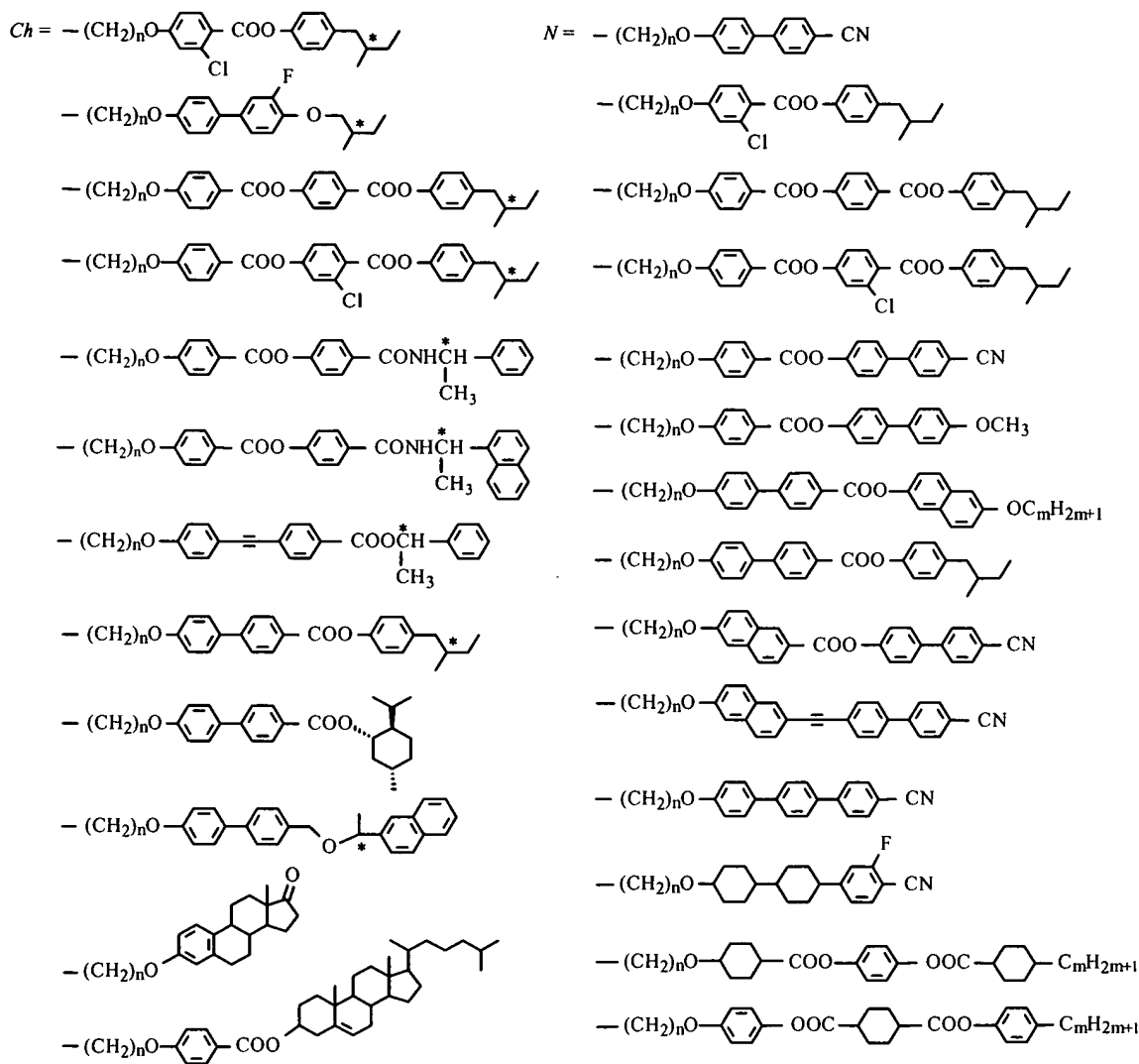
10. The composition of claim 1 wherein said chiral group *Ch* includes a (+)-estrone ether or ester moiety .

11. The composition of claim 1 wherein said chiral group *Ch* is an (*S*)-2'-4-[1-(2-naphthyl)ethoxymethyl]phenyl- 6'-ethyleneoxy-naphthalene group.

12. The composition of claim 1 wherein said chiral and nematic groups are selected from, respectively, the following groups of chiral *Ch* and nematic *N* groups



$n = 2-6; m = 1-6$



wherein n represents an integer from 2 to 6 and m represents an integer from 1 to 6.

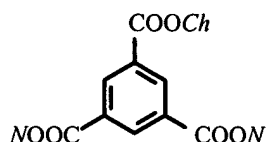
13. The composition of claim 1 wherein said compound is selected from the group consisting of 1,3,5-benzenetricarboxylic acid, 1,3-bis-{3-[4-(4'-cyano-biphenyl-4-yloxy)carbonyl]-phenoxy]-propyl ester}, 5-{[4-[4-[(R)-(+)-1-(phenylethyl)]benzamide]-1-oxy]benzoate-1-oxy} ethyl ester} (**I-R**), 1,3,5-benzenetricarboxylic acid, 1,3-bis-{3-[4-(4'-cyano-biphenyl-4-yloxy)carbonyl]-phenoxy]-propyl ester}, 5-{[4-[4-[(S)-(-)-1-(phenylethyl)]benzamide]-1-oxy]benzoate-1-oxy} ethyl ester} (**I-S**), and mixtures thereof.

14. The composition of claim 1 wherein said compound is selected from the group consisting of 1,3,5-benzenetricarboxylic acid, 1,3-bis-{4-[(6-coumarin)-yloxy)carbonyl]-4'-biphenoxy} hexyl ester}, 5-{[4-[4-[(R)-(+)-1-(phenylethyl)]benzamide]-1-oxy]benzoate-1-oxy} ethyl ester} (**II-R**), 1,3,5-benzenetricarboxylic acid, 1,3-bis-{4-[(6-coumarin)-yloxy)carbonyl]-4'-biphenoxy} hexyl ester}, 5-{[4-[4-[(S)-(+)-1-(phenylethyl)]benzamide]-1-oxy]benzoate-1-oxy} ethyl ester} (**II-S**), and mixtures thereof.

15. The composition of claim 1 wherein said compound is selected from the group consisting of 1,3,5-benzenetricarboxylic acid, 1,3-bis-{[6-(4'-cyanophenyl) 2-naphthyloxy]-1-propyl ester}, 5-{6-[1-[1-(R)-(2-naphthylethyl)oxo]benzyl]-2-naphthyloxy]-1-propyl ester} (**III-R**), 1,3,5-benzenetricarboxylic acid, 1,3-bis-{[6-(4'-cyanophenyl) 2-naphthyloxy]-1-propyl ester}, 5-{6-[1-[1-(S)-(2-naphthylethyl)oxo]benzyl]-2-naphthyloxy]-1-propyl ester} (**III-S**), and mixtures thereof.

16. The composition of claim 1 comprising a glassy chiral-nematic liquid crystal compound and a glassy nematic liquid crystal compound selected from the group consisting of 1,3,5-benzenetricarboxylic acid, 1,3,5-tris-{3-[4-(4'-cyano-biphenyl-4-yloxy)carbonyl]-phenoxy]-propyl ester} (**IV**) and 1,3,5-benzenetricarboxylic acid, 1,3,5-tris-{4-[(6-coumarin)-yloxy)carbonyl]-4'-biphenoxy} hexyl ester} (**V**).

17. An optical device formed from at least one glassy chiral-nematic liquid crystal composition comprising a compound having a 1, 3, 5-benzenetricarbonyl central moiety, said compound having the structural formula



wherein each *N* represents a nematic group connected to said central moiety by a carboxylic ester linkage and *Ch* represents a chiral group connected to said central moiety by a carboxylic ester linkage.

18. The optical device of claim 17 wherein said nematic group *N* includes a biphenyl or terphenyl moiety.

19. The optical device of claim 18 wherein said nematic group *N* is a 4-(1-propylene-3-oxy)-benzoic acid 4'-cyanobiphenyl-4-yl ester group or a 3-(4'-cyano-*p*-terphenyloxy)-1-propyl group.

20. The optical device of claim 17 wherein said nematic group *N* includes a coumarin moiety.

21. The optical device of claim 20 wherein said nematic group *N* is a 4'-(6-hexyleneoxy)-[1,1'-biphenyl]-4-carboxylate acid, 4-(6-coumarin) ester.

22. The optical device of claim 17 wherein said nematic group *N* includes a naphthyl moiety.

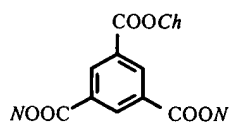
23. The optical device of claim 17 wherein said chiral group *Ch* includes an ether or an ester of a chiral alcohol.

24. The optical device of claim 17 wherein said chiral group *Ch* includes an amide of a chiral amine.

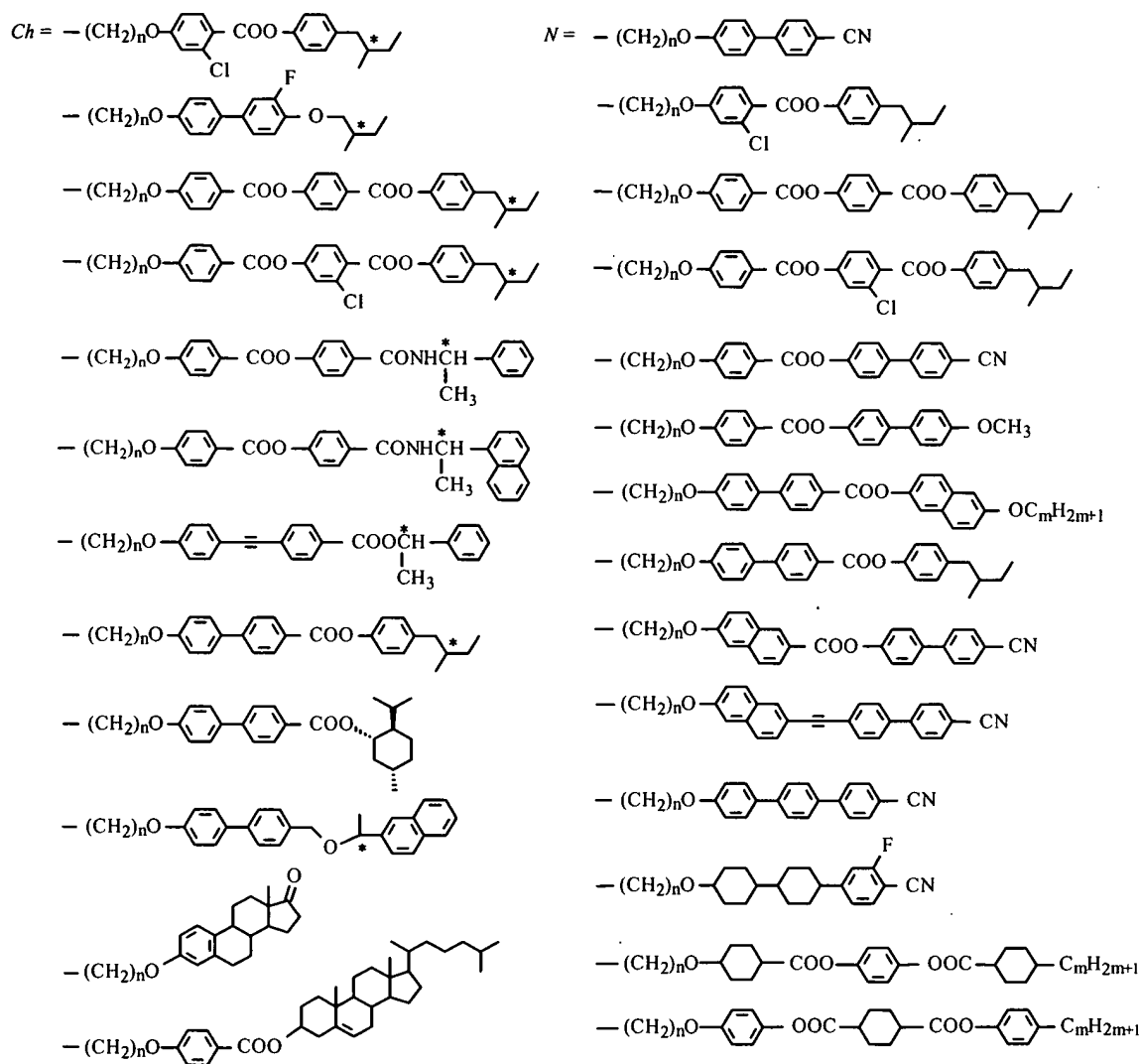
25. The optical device of claim 24 wherein said chiral group *Ch* includes an (*S*)- or an (*R*)-1-(phenylethyl) amide moiety.

estrone ether or ester moiety .

selected from, respectively, the following groups of chiral Ch and nematic N groups



$n = 2-6; m = 1-6$



wherein n represents an integer from 2 to 6 and m represents an integer from 1 to 6.

28. The optical device of claim 17 wherein said compound is selected from the group consisting of 1,3,5-benzenetricarboxylic acid, 1,3-bis-{3-[4-(4'-cyano-biphenyl-4-yloxy)carbonyl]-phenoxy]-propyl ester}, 5-{[4-[4-[(R)-(+)-1-(phenylethyl)]benzamide]-1-oxy]benzoate-1-oxy} ethyl ester} (**I-R**), 1,3,5-benzenetricarboxylic acid, 1,3-bis-{3-[4-(4'-cyano-biphenyl-4-yloxy)carbonyl]-phenoxy]-propyl ester}, 5-{[4-[4-[(S)-(-)-1-(phenylethyl)]benzamide]-1-oxy]benzoate-1-oxy} ethyl ester} (**I-S**), and mixtures thereof.

29. The optical device of claim 17 wherein said compound is selected from the group consisting of 1,3,5-benzenetricarboxylic acid, 1,3-bis-{4-[(6-coumarin)-yloxy)carbonyl]-4'-biphenoxy} hexyl ester}, 5-{[4-[4-[(R)-(+)-1-(phenylethyl)]benzamide]-1-oxy]benzoate-1-oxy} ethyl ester} (**II-R**), 1,3,5-benzenetricarboxylic acid, 1,3-bis-{4-[(6-coumarin)-yloxy)carbonyl]-4'-biphenoxy} hexyl ester}, 5-{[4-[4-[(S)-(+)-1-(phenylethyl)]benzamide]-1-oxy]benzoate-1-oxy} ethyl ester} (**II-S**), and mixtures thereof.

30. The optical device of claim 17 wherein said compound is selected from the group consisting of 1,3,5-benzenetricarboxylic acid, 1,3-bis-{[6-(4'-cyanophenyl) 2-naphthyloxy]-1-propyl ester}, 5-{6-[1-[1-(R)-(2-naphthylethyl)oxo]benzyl]-2-naphthyloxy]-1-propyl ester} (**III-R**), 1,3,5-benzenetricarboxylic acid, 1,3-bis-{[6-(4'-cyanophenyl) 2-naphthyloxy]-1-propyl ester}, 5-{6-[1-[1-(S)-(2-naphthylethyl)oxo]benzyl]-2-naphthyloxy]-1-propyl ester} (**III-S**), and mixtures thereof.

31. The optical device of claim 17 comprising a combination of a glassy chiral-nematic liquid crystal compound and a glassy nematic liquid crystal compound selected from the group consisting of 1,3,5-benzenetricarboxylic acid, 1,3,5-tris-{3-[4-(4'-cyano-biphenyl-4-yloxy)carbonyl]-phenoxy]-propyl ester} (**IV**) and 1,3,5-benzenetricarboxylic acid, 1,3,5-tris-{4-[(6-coumarin)-yloxy)carbonyl]-4'-biphenoxy} hexyl ester} (**V**).

32. The optical device of claim 17 comprising at least one film formed from at least one said glassy chiral-nematic liquid crystal composition.

33. The optical device of claim 32 further comprising an optically clear substrate.

34. The optical device of claim 32 wherein said film further comprises a nematic liquid crystal compound.

35. The optical device of claim 17 selected from the group consisting of a circular polarizer, an optical notch filter, and a reflector.